

**SOLENOPSIS DENTATA (HYMENOPTERA, FORMICIDAE):  
A NEW SPECIES FROM ISRAEL**

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**ABSTRACT**

The ant *Solenopsis dentata* n. sp. is recorded from Israel. Descriptions are given for the worker, female and male. All castes show an anteroventral toothlike projection at the postpetiole in lateral view.

KEY WORDS: Formicidae, *Solenopsis dentata* n. sp., Israel

**INTRODUCTION**

A revision and a review of ants belonging to the *Solenopsis* genus group are given by Ettershank (1966) and Bolton (1987).

The genus *Solenopsis* is characterized by very small to medium sized workers (1–7.5 mm; palearctic species 1–2.8 mm) with 10 antennal segments, the last two forming a large club. The females and males are much larger than the workers. The female has 11 antennal segments (less commonly 10), and the male 12. The clypeus is bicarinate, the carinae are usually strongly defined and terminating in a pair of clypeal teeth, often flanked by a pair of lateral clypeal teeth. The median clypeal seta is always present. The genus includes more than 200 species, most of them in the warm parts of America. Many species occur in the countries around the Mediterranean and only a few species inhabit central Europe, Asia and Australia (Emery, 1922). Menozzi (1933) recorded only one species from Israel, *S. fugax* (Latreille). Later, Kugler (1988) added *S. orbula* Emery and *S. santschii* Forel. The workers of *Solenopsis* species are very similar and difficult to distinguish from each other. In many species not all the castes are known. In the following, a new species of *Solenopsis*, in which the three castes are well characterized, is described from Israel.

**MEASUREMENTS AND INDICES**  
(according to Bolton, 1987)

Total length (TL), head length (HL), head width (HW), cephalic index (CI) =  $(HW \times 100)/HL$ , scape length (SL), scape index (SI) =  $(SL \times 100)/HW$ .

*Solenopsis dentata* n. sp.

(Figs. 1–9)

**Worker**

TL 1.72–2.33, HL 0.48–0.65, HW 0.40–0.58, CI 82.2–89.2, SL 0.33–0.46, SI 80.7–89.2 (10 measured).

Color yellow. Head (Fig. 2) with widely scattered punctures and a few scratch marks on the lower genae, the rest of the head and the body shining without distinct sculpture. All parts of the body with scattered fine long hairs. Head not much longer than broad, with lateral margin slightly curved; occiput with rounded corners. Eye small, with 7 ommatidia set laterally well below midline of head. Anterior clypeal margin with central pair of stout projecting teeth, 0.07 mm long, and a lateral pair of short, broad basal blunt teeth. Alitrunk (Fig. 1) with small but acute mesopropodeal furrow. Petiole in lateral view (Fig. 5) with high, rounded node, anterior peduncle with distinct small ventral tooth; in dorsal view (Fig. 6) petiolar node twice as wide as long. Postpetiole lower, more or less cubical, in lateral view with distinct anteroventral toothlike process which bears few long hairs (Fig. 5). This process is one of two projections of transverse ridge (Fig. 7).

**Female (queen)**

TL 3.57–3.92, HL 0.72–0.76, HW 0.67–0.72, CI 93–94.7, SL 0.45–0.50, SI 67.16–69.4 (4 measured).

Body brilliant brownish black, with occasional punctures; antenna, mandible and legs yellow.

Head (Fig. 3) slightly longer than broad; eye oval with 18 ommatidia in the longest row; ocelli circular, anterior slightly larger than posterior ones, clypeal tooth and petiole as in worker; postpetiole as in worker with toothlike processes bearing hairs (Fig. 8).

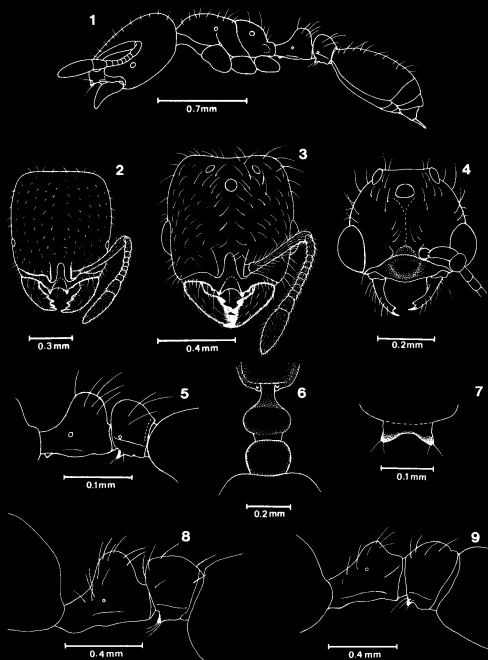
**Male**

TL 2.9–3.1, HL 0.46–0.48, HW 0.46–0.48, CI 100, SL 0.12–0.14, SI 26–29.1 (5 measured).

Body brilliant black brown, scapus and coxa dark brown, rest of leg, funiculus and mandible brownish yellow; hairs and wing veins yellow, pterostigma brown.

Head (Fig. 4) as long as wide; above the eyes smooth and shiny; margin of vertex between posterior ocelli straight, a little concave; lateral margin of head between upper margins of eye and posterior ocellus curved, longer than the large diameter of eye; anterior ocellus a little wider than high; posterior ocelli directed laterally, their upper margin protruding above head margin. In the 12 segmented antenna, scapus short, twice as long as wide. First funicular segment globular, a little wider than long, the following segments longer than wide, increasing in length, last segment 5 times as long as wide; mandible narrow with 2 or 3 teeth. Mesonotum smooth and shiny without remarkable sculpture, anteriorly with 2 fine furrows.

Petiole and postpetiole (Fig. 9) shiny, only partly reticulate, with scattered long hairs; in side view petiolar node angular, postpetiole ventrally with 2 toothlike projections, each bearing hairs.



Figs 1–9. *Solenopsis dentata* n. sp. 1. ♀, in profile; 2. ♀, head; 3. ♀, head; 4. ♂, head; 5. ♀, petiole and postpetiole (lateral view); 6. ♀, petiole and postpetiole (dorsal view); 7. ♀, ridge of postpetiole with toothlike projections; 8. ♀, petiole and postpetiole (lateral view); 9. ♂, petiole and postpetiole (lateral view).

MATERIAL EXAMINED. Holotype ♀, ISRAEL: Yavne [Southern Coastal Plain] 5.vi.1982 (Q. Argaman). Paratypes. ISRAEL: Yavne, 5.iv.1982 (Q. Argaman) 1♂ + 7♀♀. Jerusalem (Judean Hills), 27.vii.1982 (Q. Argaman) 2♀♀ + 3♀♀. Tel Aviv (Southern Coastal Plain), 20.vi.1978 (J. Kugler) 1♂ + 1♀. Qiryat Anavim (Judean Hills), 8.iv.1940 (H. Bytinski-Salz) 8♀♀. Yeroham (Northern Negev), 23.iii.1960 (J. Kugler) 3♀♀. Meron (Upper Galilee), 21.iv.1984 (under stone) (C.A. Collingwood) 4♀♀. Zekharya (Foothills of Judea), 17.iv.1984 (C.A. Collingwood) 3♀♀.

The holotype and most paratypes are deposited in the Zoological Museum of Tel Aviv University; some paratypes are preserved in the collection of C.A. Collingwood.

REMARKS. *S. dentata* is easily distinguished from most other species of *Solenopsis* by the anteroventral toothlike projection of the postpetiole in lateral view. This projection is readily observable in all castes. A similar structure was recorded and figured by Emery (1909) for a female of *Solenopsis* from Tunisia doubtfully belonging to *S. orbula* Emery 1875 var. *terniensis* Forel 1905. *S. orbula*, including var. *terniensis*, however, is characterized by a much longer head in the worker and female than in *S. dentata*.

Workers of a new *Solenopsis* species, collected in Oman, also have the ridge and the toothlike projections on the postpetiole but they possess a more abundant and longer pilosity than the Mediterranean specimens.

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